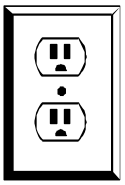
Electrical



42. Adjustable Wrench **Section: 2** Size is designated by the length in inches of the handle. Jaws of the wrench are adjustable.	
483. Armored Cable **Section: 14** Used for the wiring of houses and farm buildings. The two or three copper conductor wires are insulated with a rubber or plastic covering with a moisture resistant braid. This cable must run from box to box without splices.	
97. Carpenter's Level **Section: 3** Used for marking level lines and for checking surfaces for level and plumb. Typical length is 24 to 48 inches. Longer levels are often called masonry levels since they are commonly used to lay brick.	
128. Carriage Bolt **Section: 4** Has a domed head, and the shaft is topped by a short square section under the head. Used to bolt two or more pieces of wood together. A washer is not needed under the head of the bolt.	
479. Cartridge Fuse **Section: 14** Used as a protective device which will burn out and automatically stop the electrical current when there is a short or an overload on the circuit. This type of fuse is made in two sizes, 30 or 60 amps, and they are not interchangeable.	
99. Chalk Line **Section: 3** A special container contains the chalk powder and string line which is on a winding spool. Excellent to use in marking long lines on floors, plywood, and roofs.	
478. Circuit Breaker **Section: 14** A protective device similar to a fuse. The circuit breaker opens the circuit during an over load without injury to itself by means of heat or electromagnetic action. Sizes are from 15 to 200 amps. The breaker is reset after trouble has been corrected.	

91. Combination Square **Section: 3** A level and a scribe are contained in the beam. May be used to measure 45 and 90 degree angles.	
467. Conduit Bender **Section: 13** Used to bend conduit and is like the hickey except that it is used where larger radius bends are needed. This bender has two levels, one for horizontal and the other for 45 degrees. This enables the electrician to make accurate 45 and 90 degree bends	
469. Conduit Strap **Section: 14** Conduit is placed in the curved portion and the strap is secured by nails or screws. There are single and double foot styles. Sized for EMT, Rigid, and PVC conduit.	
454. Continuity Tester **Section: 13** A device used to check for continuity of a circuit (determines if the circuit is open or closed).	
489. Cord Cap **Section: 14** Used on extension cords or other electrical devices needing to be plugged into an electrical receptacle. It is some times called a male plug or Grounding Cap.	
490. Cord Connector **Section: 14** Used on extension cords. This connector is designed to accommodate the cord cap and is sometimes called a female plug or Grounding Connector.	
472. Core Solder **Section: 14** It is available in spools. Rosin core is used to solder wires and acid core to solder sheet metal.	
84. Cut Off Saw **Section: 3** Cutting wheels are disposable. Used for cutting steel bar and pipe.	

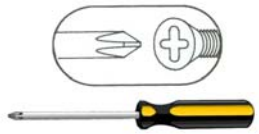
5. Diagonal Cutting Pliers **Section: 1** Has curved handles and lap joined. The diagonal cutting jaws are used to cut soft wire.	
355. Drill Press **Section: 10** A machining tool used to drill a variety of hole making operations. All work should be clamped to its table and smaller pieces in a drill press vise.	
495. Duplex Receptacle **Section: 14** Used to provide electricity to service outlets and to accommodate two cord caps. Receptacles may be installed in outlet boxes flush with the wall or in surface mounted or junction boxes.	
486. Electric Cord **Section: 14** A flexible cable used for extension cords and connecting power tools. Outer covering may be plastic or rubber.	
354. Electric Drill **Section: 10** Used for drilling holes. Sizes range from 1/4 to 1 inch and larger capacity drill bits. Smaller size drills are held single handed, while larger sizes should be held using both hands. Many models are variable speed and may have a keyless chuck.	
474. Electric Soldering Iron **Section: 14** It has replaceable copper tip. Soldering irons are sized from very light duty for soldering fine wires to heavy duty for sheet metal.	
502. Electrical Metallic Tubing (EMT) **Section: 14** Used as a mechanical protection and for fire prevention. Walls are thin and can't be threaded. It is easily bent and is coupled with fittings that are smooth inside. EMT is made of galvanized steel, comes in 10 ft lengths and is 1/2" to 2" in diameter.	
507. EMT Connector **Section: 15** Used to connect EMT conduit to a box, panel, or other threaded fittings.	

508. <u>EMT Coupling</u> **Section: 15** Used to connect EMT conduit together by compression.	
511. <u>EMT Sweep</u> **Section: 15** Used for the same purpose as the ridged connect. EMT Sweeps do not have threads.	
81. <u>Face Shield</u> **Section: 3** Eye protection that covers the entire face. Often used with safety glasses when full protection of the face is required. Used when grinding or cutting metals.	
459. <u>Fish Tape</u> **Section: 13** Used to pull electrical wire through conduit. The tape is made of spring steel and coiled in a round plastic container. Tapes come in 25, 50, and 100 foot lengths.	
145. <u>Flat Washer</u> **Section: 5** Used to prevent the nut from rubbing and becoming imbedded in the bolted material. Also called a Cut Washer.	
504. <u>Flexible Conduit</u> **Section: 14** It is used to give mechanical protection to wire, usually from the switch to a motor. It consists of a heavily zinc coated spiraling wound steel strip with interlocked construction permitting greater flexibility.	
93. <u>Framing Square</u> **Section: 3** Are marked in 12ths of an inch on the back side. Also called a Carpenter's or Steel Square. Many of these squares are inscribed with rafter tables.	
476. <u>Friction Tape</u> **Section: 14** Friction tape is a cotton cloth that has been treated with a sticky rubber compound. Used over ruber insulating tape on wire splices and is used to restore the outer protective covering.	

458. Fuse Puller **Section: 13** It removes fuses from disconnects and fuse holders. Made of plastic to prevent electrical shock while installing or removing fuses.	
492. Ground Rod **Section: 14** Used to ground electrical systems at the service entrance. The copper rod is 5/8" in diameter and 8 feet long. The rod is driven or buried into the ground. It is connected to the service entrance or meter.	
491. Grounding Rod Clamp **Section: 14** Connects the ground wire from the service panel to the ground rod, reinforcing bar, or metal water pipe. This provides good grounding in the event of power spikes or lightning strike.	
290. Hack Saw **Section: 9** The handle normally has a pistol type grip. The teeth of the blade face the handle and the cutting occurs in the upward stroke.	
45. Hex Key **Section: 2** This wrench is made of hexagon stock with one end bent to a 90 degree angle. Also known as an Allen Wrench.	
137. Hex Nut **Section: 4** It may have NC, NF or metric threads.	
466. Hickey **Section: 13** Is used for bending conduit in sizes of 1/2, 3/4, and 1 inch. Made of steel or high strength aluminum alloy. The hickey or Conduit Bender is used for short radius bends.	
323. Hole Saw **Section: 9** Used to cut clean round holes in wood, composition board, plastics and soft metals. Used in electric drills or a drill presses. Shaped like a circular steel cup with saw teeth on the edge. Hole saws come in sizes from 3/4 to 2-1/2 inches.	

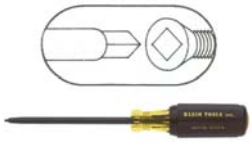
471. <u>Insulated Staple</u> **Section: 14** Commonly used for low voltage applications such as door bells and sprinkler controllers.	
501. <u>Junction Box</u> **Section: 14** Used to protect splices and to mount various lighting and electrical fixtures. Boxes are usually square or octagon shaped and made of steel.	
480. <u>Knife Fuse</u> **Section: 14** Similar to a cartridge fuse except that it has a heavy copper blade at each end. The knife fuse is made for several capacities ranging from 60 to 600 amps, and are not interchangeable with cartridges of different capacities.	
457. <u>Knockout Punch</u> **Section: 13** Used to make accurate size holes for pipe or conduit in sheet metal or electrical boxes. Consists of three parts, the punch, the die and mandrel. A hole is drilled and the punch is placed on one side and tightened. Sizes are 1/2 to 2-1/2 inches.	
127. <u>Lag Bolt</u> **Section: 4** The bolt has a square or hex head with a tapered wood screw on the other end. Common sizes range from 1/4 to 1/2 inch in diameter, 2" and 12" long. Also known as a Lag Screw.	
496. <u>Lamp Holder</u> **Section: 14** A plastic or porcelain device used to hold a lamp.	
462. <u>Lineman's Pliers</u> **Section: 13** They are used to cut, strip and twist both bare and insulated wires. These pliers are also used for fence work and tying reinforcing bar. They are also called Electrician's Pliers.	
144. <u>Lock Washer</u> **Section: 4** Used to keep the nut from coming loose; should not be used on wood.	

461. <u>Long Nose Pliers</u> **Section: 13** Used for working in confined places. Also used for stripping wire, making eyes in wire and holding wire in place while inserting screws.	
456. <u>Multi-Tester or Volt-Ohm Meter</u> **Section: 13** Used to test AC or DC voltage up to 600 volts. Also checks resistance in circuits with readings in Ohms. Will read from 0 to 200 ohms.	
460. <u>NM Cable Cutter</u> **Section: 13** A cutter used to cut Type NM cable.	
485. <u>Non-Metallic Cable</u> **Section: 14** Is generally used for inside wiring of residential and farm structures. It consists of two or three plastic covered wires and one bare copper wire, with sizes in diameter ranging from 14 to 6	
465. <u>Non-Metallic Cable Ripper</u> **Section: 13** Used to cut the plastic coating of non-metallic cable to expose the plastic covered wires. Made of thin "U" shaped metal.	
470. <u>Non-Metallic Cable Staples</u> **Section: 14** These staples are used to secure NM cable to wood structures.	
506. <u>Non-Metallic Clamp</u> **Section: 15** Used to secure non-metallic cable in electrical boxes. The cable is secured by means of a bracket being tightened with screws.	
25. <u>Nut Driver</u> **Section: 1** This is a very popular tool in the electrical and sheet metal industry.	

17. Phillips Screwdriver **Section: 1** Used to drive screws into and out of various materials. Always select the correct size for the application. Tip sizes are numbered #0, #1, #2, #3 and shank lengths will vary.	
386. Pipe or Burring Reamer **Section: 11** Is used to remove the burr caused by cutting pipe with a pipe cutter. It may be spiral fluted to reduce clattering. Reamers are made with a square tapered shank for the bit brace, a round shank, or a "T" handle (as shown).	
481. Plastic Covered Electric Wire **Section: 14** Used in conduit for household wiring. The wire is colored and has a thermo-plastic insulation which is waterproof and resistant to heat. Wire size is determined by the American Wire Gauge (AWG). Larger the number, the smaller the diameter.	
475. Plastic Tape **Section: 14** Used as insulation on wire splices. It is used alone without friction tape. It can withstand higher voltages for a given thickness. Plastic tape has a certain amount of stretch so that it can easily conform to the contour of the splice.	
512. PVC Conduit **Section: 15** Used to protect wires from moisture and the elements. Conduit is smooth on both the inside and outside. Fittings are glued and can be used either inside, outside, or underground.	
513. PVC Coupling **Section: 15** Used to connect PVC conduit, must be glued and once connected it cannot be removed.	
515. PVC Elbow or Sweep **Section: 15** Used for making 45 or 90 degree bends in PVC conduit. It has a long radius and the ends are glued to the PVC conduit with couplings.	
516. PVC Male Adaptor **Section: 15** Adapts PVC conduit to a threaded fitting for connecting to a box, service panel, raintite hub, and ridged conduit.	

514. PVC Pull Elbow **Section: 15** Used to make 90 degree bends and has a removable cover to splice or pull wires. Glues to PVC conduit. Types denote the location of the cover (e.g. LB, LR).	
498. Raintite Hub **Section: 14** Used to connect the entrance conduit or riser to the service panel or meter. Made of cast aluminum, it has a flange with pre-drilled holes for mounting to the panel and has a threaded inlet for the conduit.	
258. Reduced Shank Drill **Section: 8** The shank of the drill comes in three sizes, 1/4, 1/2 and 3/4 inch.	
503. Rigid Conduit **Section: 14** Used to protect wire, it excludes moisture and provides fire protection for both inside and outside installations. Similar to water pipe but has a smooth inside and requires special couplings and fittings. Available in galvanized or enamel finishes.	
505. Rigid Coupling **Section: 15** Used to connect ridged conduit between electrical boxes. Made of galvanized steel and the coupling has threaded ends.	
510. Rigid Elbow or Sweep **Section: 15** Used to make 90 degree bends when using ridged conduit. Both ends have male threads and has a large radius bend; this allows wires to be pulled through easily.	
509. Rigid Entrance Ell **Section: 15** Used to make 90 degree bends, to connect to electrical boxes and/or entrance panels. Has female threads on each end and has a removable cover to access wires for splicing or pulling.	
85. Rotary Hammer **Section: 3** Used for drilling holes in concrete and with chisel attachments. Special carbide tipped bits must be used with this unit.	

477. Rubber Tape **Section: 14** Used to insulate high voltage wire splices. It is covered with friction or plastic tape.	
79. Safety Glasses **Section: 3** Safety glasses have side shields and cover the eyes. The California State Educational Code states that all students, teachers, and visitors in a school shop must wear eye protection.	
80. Safety Goggles **Section: 3** Eye protection that covers eye glasses.	
353. Screwdriver **Section: 10** Comes in many shapes and sizes. These power tools are battery or AC powered, reversible, and variable speed. They are commonly used for dry wall or decking installation. Many models have a high speed range for drilling.	
21. Screwdriver Bits **Section: 1** Available in slotted, phillips, square, and torx drives for power screwdrivers. Shank is hexagonal and will vary in length.	
497. Service Entrance Cap **Section: 14** Used to keep water from entering the conduit at the point of entry from the main power source to the service panel. Caps are located on roof tops of homes, farms and industrial buildings. Entrance cap will fit ridged, EMT or PVC conduit.	
499. Service Panel **Section: 14** Used to distribute power in a building. Contains a main disconnect and circuit breakers.	
482. Single Conductor **Section: 14** A single conductor with thermal plastic insulation. Wire may be solid or stranded. Typical types are TW and THHN. Common sizes are between 14 to 0.	

95. <u>Sliding "T" Bevel</u> **Section: 3** After it is set at the correct angle, it is much the same as a square.	
4. <u>Slip Joint Combination Pliers</u> **Section: 1** Useful for a variety of small and/or large jobs. Used to hold flat or round items, to cut and/or twist soft wires.	
18. <u>Slotted Screwdriver</u> **Section: 1** Used mostly in woodworking applications. Tip sizes will vary in width 1/4", 5/16", and 1/2". Shank lengths will also vary. Use the correct tip size for each application.	
473. <u>Soldering Gun</u> **Section: 14** Used primarily to solder wire joints and smaller metal parts. It has a replacement tip and operates on 115 volts AC.	
488. <u>Solderless Connector</u> **Section: 14** Used where a permanent connection is desired. Connectors can be insulate or un-insulated. Commonly used for wiring on mobile equipment.	
138. <u>Square Nut</u> **Section: 4** Used on farm implements with carriage bolts, machine bolts, stoves bolts and plow bolts.	
23. <u>Square Recess Screwdriver</u> **Section: 1** Each screwdriver is color coded for easy size identification.	
86. <u>Staple Gun</u> **Section: 3** Heavy duty and light utility models are available to drive 1/4 to 9/16 inch staples.	

89. <u>Steel Tape</u> **Section: 3** It should be cleaned after each use and kept free from dirt and rust.	
257. <u>Straight Shank Twist Drill</u> **Section: 8** Used to drill holes in metal or wood. If used on hard steel and at high speeds, it should be made of high speed steel.	
468. <u>Strap Nail Drive</u> **Section: 13** Used for hanging or attaching EMT or ridged conduit to a wood structure. Made of die cast zinc, it is driven into the wood with a hammer with conduit resting in the curved end.	
19. <u>Stubby Screwdriver</u> **Section: 1** The screwdriver will have a slotted or phillips tip, and a blade length of 1-1/4 to 1-1/2 inches long. Used to drive screws in and out of various materials and in a confined space.	
500. <u>Switch Box</u> **Section: 14** Used to protect the switch. Comes with knockouts for non-metallic cable or electrical metallic tubing (EMT).	
494. <u>Three-Way Toggle Switch</u> **Section: 14** Used to control lights or appliances from two locations. Commonly found and used in hallways.	
493. <u>Toggle Switch</u> **Section: 14** Commonly used to turn on and off lights or appliances in residential or farm structures at a single location.	
92. <u>Try Square</u> **Section: 3** It is marked in 8ths and 16ths of an inch. Marks 90 degree angles.	

484. <u>UF Cable</u> **Section: 14** A solid plastic covering is used on this cable making it suitable for direct burial of the cable.	
455. <u>Voltage Tester</u> **Section: 13** Used for testing the voltage on electrical outlets, fuse clips, and circuit breakers. Will test voltage from 120 to 600 volts.	
7. <u>Water Pump Pliers</u> **Section: 1** Has parallel jaws to work with odd shapes. Ideal use for service and maintenance, equipment repair, automotive and general use.	
487. <u>Wire Nut</u> **Section: 14** Used to connect AC wires together without splicing or soldering. Color coded to denote wire capacity.	
463. <u>Wire Stripper</u> **Section: 13** Used to strip plastic coating from solid electrical wire without damaging the wire. Can be adjusted to strip various wire sizes.	
464. <u>Wire Stripper and Crimping Tool</u> **Section: 13** Used for stripping, cutting, and crimping wire terminals on stripped wire ends.	